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	First Named Inventor	Nathan T. Hayes	
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## Books

### Computer Graphics

- Apodaca, Anthony and Larry Gritz. "Advanced RenderMan: Creating CGI for Motion Pictures." Morgan Kaufmann, 1999.
- Blinn, Jim. "Jim Blinn's Corner: A Trip Down the Graphics Pipeline." Morgan Kaufmann, 1996.
- Blinn, Jim. "Jim Blinn's Corner: Dirty Pixels." Morgan Kaufmann, 1998.
- Blinn, Jim. "Jim Blinn's Corner: Notation, Notation, Notation." Morgan Kaufmann, 2002.
- Dutre, Philip, Philippe Bekaert and Kavita Bala. "Advanced Global Illumination." AK Peters, 2003.
- Ebert, David, et. al. "Texturing & Modeling: A Procedural Approach." 3rd ed. Morgan Kaufmann, 2002.
- Foley, James, et. al. "Computer Graphics: Principles and Practice." Addison Wesley, 1990.
- Jensen, Henrik Wann. "Realistic Image Synthesis Using Photon Mapping." AK Peters, 2001.
- Neider, Jackie, Tom Davis and Mason Woo. "OpenGL Programming Guide." Addison Wesley, 1993.
- Piegel, Les and Wayne Tiller. "The NURBS Book." Springer Verlag, 1995.
- Shirley, Peter. "Fundamentals of Computer Graphics." AK Peters, 2002.
- Upstill, Steve. "The RenderMan Companion: A Programmer's Guide to Realistic Computer Graphics." Addison Wesley, 1992.
- Watt, Alan and Mark Watt. "Advanced Animation and Rendering Techniques." Addison Wesley, 1992.

### Numerical Computing

- Cheney, Ward and David Kincaid. "Numerical Mathematics and Computing." Brooks/Cole Publishing, 1980.
- Knuth, Donald. "The Art of Computer Programming: Seminumerical Algorithms." Vol. 2, 3rd ed. Addison Wesley, 1997.

### Interval Analysis

- Jaulin, Luc, et. al. "Applied Interval Analysis." Springer Verlag, 2001.
- Hansen, Eldon and William Walster. "Global Optimization Using Interval Analysis." 2nd ed. Marcel Dekker, 2004.
- Moore, Ramon. "Interval Analysis." Prentice Hall, 1966.
- Snyder, John. "Generative Modeling for Computer Graphics and CAD: Symbolic Shape Design Using Interval Analysis." Academic Press, 1992.

### Geometry and Physics

- Fowles, Grant. "Introduction to Modern Optics." Dover Publishing, 1968.

- McCluney, William Ross. "Introduction to Radiometry and Photometry." Artech House, 1994.
- Stolfi, Jorge. "Oriented Projective Geometry: A Framework for Geometric Computations." Academic Press, 1991.
- Wolfe, William. "Introduction to Radiometry." SPIE – The International Society for Optical Engineering, 1998.

## **Publications and Journals**

### **Computer Graphics**

- Akeley, Kurt and Mark Segal. "The OpenGL Graphics System: A Specification." Ver. 1.5. Silicon Graphics, 2003.
- Amanatides, John. "Ray Tracing with Cones." Computer Graphics 18.3 (Jul. 1984): 129-135.
- Carpenter, Loren. "The A-buffer, an Antialiased Hidden Surface Method." Computer Graphics 18.3 (Jul. 1984): 103-108.
- Christensen, Per, et. al. "Ray Differentials and Multiresolution Geometry Caching for Distribution Ray Tracing in Complex Scenes." Computer Graphics Forum 22.3 (2003).
- Cook, Robert, Thomas Porter and Loren Carpenter. "Distributed Ray Tracing." Computer Graphics 18.3 (Jul. 1984): 137-145.
- Haeberli, Paul and Kurt Akeley. "The Accumulation Buffer: Hardware Support for High-Quality Rendering." Computer Graphics 24.4 (Aug. 1990): 309-318.
- Kajiya, James. "The Rendering Equation." Computer Graphics 20.4 (Aug. 1986): 143-150.
- Lau, Wing Hung and Neil Wiseman. "The Compositing Buffer: A Flexible Method for Image Generation and Image Editing." Computer Graphics Forum 14.4 (1995): 229-238.
- Lee, Jin Aeon. "Implementation of a Single-pass Antialiased Rasterization Processor." KAIST, 1999.
- Pixar. "The RenderMan Interface." Ver. 3.2, Jul. 2000.
- Slusallek, Philipp, Thomas Pflaum and Hans-Peter Seidel. "Using Procedural RenderMan Shaders for Global Illumination." Computer Graphics Forum 14.3 (1995): 311-324.
- Sung, Kelvin, Andrew Pearce and Changyaw Wang. "Spatial-Temporal Antialiasing." IEEE Transactions on Visualization and Computer Graphics 8.2 (Apr.-Jun. 2002): 144-153.
- Sung, Kelvin, et. al. "Design and Implementation of the Maya Renderer." Alias Wavefront, 1998.

### **Numerical Computing**

- International Electrotechnical Commission. "Binary floating-point arithmetic for microprocessor systems." International Standard 60559, 2nd ed. 1989.

### **Interval Analysis**

- Caprani, Ole, et. al. "Robust and Efficient Ray Intersection of Implicit Surfaces." *Reliable Computing* 6.1 (Feb. 2000): 9-21.
- Duff, Tom. "Interval Arithmetic and Recursive Subdivision for Implicit and Constructive Solid Geometry." *Computer Graphics* 26.2 (Jul. 1992): 131-138.
- Enger, Wolfgang. "Interval Ray Tracing – a divide and conquer strategy for realistic computer graphics." *The Visual Computer* 9.2 (1992): 91-104.
- Greene, Ned and Michael Kass. "Error-Bounded Antialiased Rendering of Complex Environments." *Computer Graphics* (Jul. 1994): 59-66.
- Greene, Ned, Michael Kass and Gavin Miller. "Hierarchical Z-buffer Visibility." *Computer Graphics* (Aug. 1993): 231-238.
- Heidrich, Wolfgang and Hans-Peter Seidel. "Ray-tracing Procedural Displacement Shaders." *Graphics Interface*, 1998.
- Heidrich, Wolfgang, Philipp Slusallek and Hans-Peter Seidel. "Sampling Procedural Shaders Using Affine Arithmetic." *ACM Transactions on Graphics* 17.3 (Jul. 1998): 158-176.
- Kass, Michael. "CONDOR: Constraint-Based Dataflow." *Computer Graphics* 26.2 (Jul. 1992): 321-330.
- Toth, Daniel. "On Ray Tracing Parametric Surfaces." *Computer Graphics* 19.3 (Jul. 1985): 171-179.

### **Modal Interval Analysis**

- Sainz, Miguel, et. al. "Ground Construction of Modal Intervals." University of Girona, 2001.
- Sainz, Miguel, et. al. "Interpretability and Optimality of Rational Functions." University of Girona, 2001.
- Sainz, Miguel, et. al. "Modal Intervals." *Reliable Computing* 7.2 (Apr. 2001): 77-111.
- Sainz, Miguel, et. al. "Semantic and Rational Extensions of Real Continuous Functions." University of Girona, 2001.